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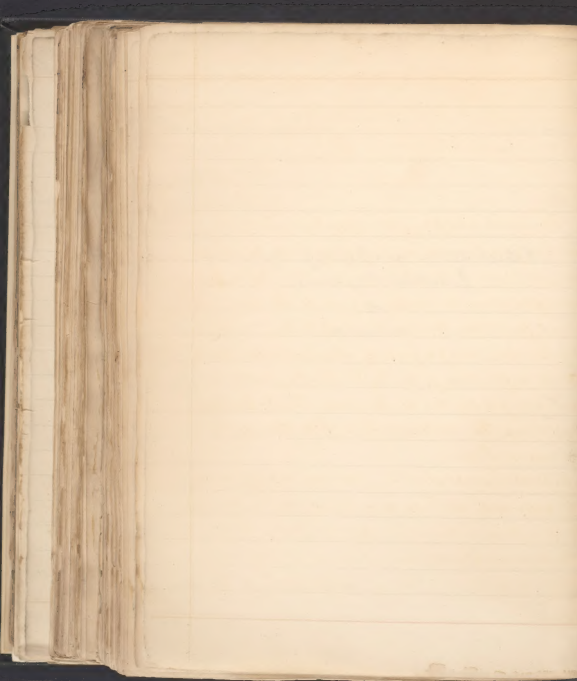
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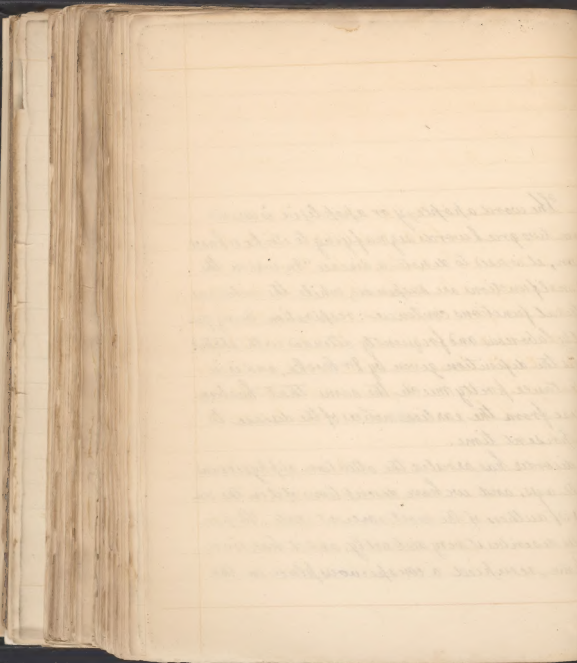
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A Dissertation on Apoplexy by
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of
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The word apoplexy or apoplexia is derived from two greek words signifying to strike or knock down, it is used to denote a disease "In which the animal functions are suspended, while the vital and natural functions continue: respiration being generally laborious and frequently attended with stertor." This is the definition given by Dr Cooke, and is in substance pretty much the same that has been in use from the earliest notices of the disease to the present time.

This disorder has arrested the attention of physicians in all ages, and we have descriptions of it in the writings of authors of the most ancient date. Hippocrates describes it very distinctly, and it has, since his time, occupied a conspicuous place in the

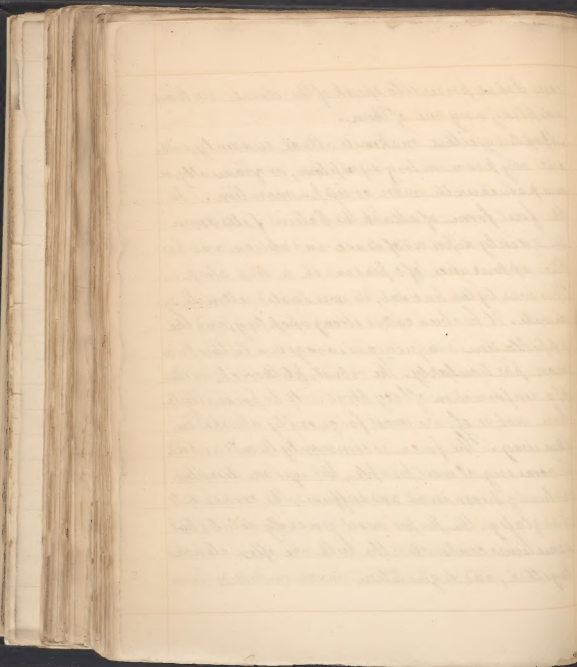


principal medical works.

Nosologists have arranged apoplexy differently; Cullen places it as a genus in the clapsneuroses, *ordo comata*. Both ancients and moderns have recognised several species of it, but the division is made very different by different writers, and it would require no little hesitation which of them to adopt. Probably in the present state of knowledge of the disease, there is not that clear and distinct foundation for any division that has yet appeared that should characterize them. Of all others that of sanguineous and serous was held in the highest estimation for some time. It has been divided into gastric, and cerebral, and recently into meningeal and cerebral. It appears that most of the divisions have been made from consideration of a single circumstance, as of the cause producing the disease, its degree, *post mortem* appearances &c. without farther consideration of those distinct

ious Ischal proceeds to speak of the disease without adopting any one of them.

Apoplexy either makes its attack suddenly, without any premonitory symptom, or gradually, accompanied with more or less premonition. In the first form of attack the patient falls down suddenly deprived of sense and motion and has the appearance of a person in a deep sleep. This was, by the ancients, denominated attoniti syderati. It has been called strong apoplexy, and the apoplexion sanguineous was given to this form more particularly. The robust, plethorick, and those of a conformation of body that will be presently taken notice of, are most frequently attacked in this way. The face is commonly tumid and red, becoming almost purple; the eyes are described as being prominent and suffused, the cornea dull and glassy, the pupil most generally dilated, but sometimes contracted; the teeth are often clenched together, and deglutition much impeded; the vo-



piration laborious and frequently stertorous; frothy saliva gathering on the lips and blown off with considerable force; the temperature of the body generally above the natural standard; the pulse is regular, slow, full, and hard and the blood presents on resection the inflammatory crust.

When the attack is gradual, it was said to be serous apoplexy, and what is called leucophlegmatic habits were thought to be most obnoxious to it. Some of the following symptoms very often precede an attack of the disease. Numbness in the head, vertigo, flushing of the face, drowsiness, frequent fits of incubus, perverted vision, tremulousness, deep inspirations, faltering when speaking, involuntary contractions of the muscles of the face, and other parts of the body, a peculiar alteration of countenance said to arise from paralysis of some of the muscles of the face, and occasionally there is numbness or paralysis of some of the members. Sometimes the soporose state comes on, then par-

lially going off, and shortly returning, producing complete apoplexy; and in some cases, the patient sinks by slow degrees into the apoplectic state. Enervated and debilitated subjects, are attacked in this gradual manner, and when the patient is examined, he is generally found with a pale countenance, irregular weak pulse, and with great inequality of the animal temperature.

Dissection in a great majority of cases shews extravasations of blood, either between the meninges of the brain, on its surface, in its cavities, or in its substance. When in the latter, it is about the more vascular parts, as the plexus choroideus corpora striata &c. The blood is found in a fluid or a coagulated state. Serum is found in the above mentioned places, presenting a variety of appearances; being clear, yellowish, or of a reddish colour, occasionally mixed with blood, insipid, or of a saline taste, and sometimes of a gelatinous consistence. Inflammation and its effects have been seen.

lined with these various appearances, also lesions of the brain, tumors, either encysted, steatomatous, or bony. In other instances only an engorged state of the vessels is presented. It is said that the cerebellum is rarely found diseased, and there are instances of nonnatural appearance showing itself.

On inspection, other parts of the body are found occasionally diseased; polypus and aneurism of the heart and blood vessels are often met with.

The causes of apoplexy are divided into predisposing and exciting, though some appear to be of both kinds.

Predisposing. Persons with a large head, short thick neck, expanded chest, and sanguineous temperament, are particularly liable to this disease and, in as much as this conformation may be inherited, it is so far hereditary. Obesity, plethora an enervated state of body and intemperance, predispose to it, also much excess of the animal

faculties, translations of joint, suppression of ac-
customed evacuations, either of health or disease
and according to Cullen, a dropsical habit.
Persons advanced in life, are more subject to
it than those of fewer years. Hippocrates, says
apoplexies are chiefly generated betwixt the fortieth
and sixtieth year. Cold weather is said to
predispose to it, particularly when combi-
ned with moisture, but extreme warmth, is
a more common cause. We are told that
it prevailed epidemically or endemically.
C. Latke says that "apoplexy as he was told was
at one time so frequent at Rome, that a day
of public fasting was ordered, and a particular
form of prayer addressed to St. Anthony to
arrest so dreadful a calamity, from the holy
city." The atmosphere of Rome has been thought
very unfavourable to head aches, arising from
a tendency to fulness of the head. This peculiar-
ity of the climate has been noticed by A. 2

native author, Alexander Le Pitreus, who gives it the barbarous name of *Capiplexum*, which few who inhabit Rome escape. He says, it consists in a superabundance of humours in the head, followed by a distillation from the nares and fauces.

Exciting causes are, depending position of the head, exposure of it to a strong heat, an interruption to the free transmission of the venous blood from the head, violent exertion of body, long inspirations, strong emotions of anger, terror, &c. a severe blow on the skull; excessive repletion of the stomach, taking in of stimulating and narcotic substances, and the presence of sordid and irritating matters in the intestines, intemperance in the use of the warm bath &c.

These exciting causes, act by producing either an engorgement of the blood vessels of the brain, & extravasation of blood in or on it, and the effusion of serous fluids; in short pretty much the

appearances met with on dissection; and, by these several means compression on the brain, which compression is the cause of the disorder we denominate apoplexy. This is the belief of most of the best authorities on the subject, but there are some, who deny that it is produced by compression on the brain, and, even that this organ, is susceptible of compression.

Of the latter suggestion, I shall say nothing, as it is proved to be incorrect.

Cases of apoplexy terminating in death, and on dissection presenting no morbid appearance of the brain; nothing that could give rise to compression of it, was thought to be a sufficient reason for an objection to its being the cause.

Such cases as the above are rare and are satisfactorily explained upon the principle of the disease, being produced by compression, from an engorged state of the vessels of the brain, and the blood receding after death; It is well known

that in analogous congestions; in other parts of the body, that blood frequently leaves the congested vessels, going to some more capacious and depending part after death, being then no longer influenced by vitality, but completely under controul of the laws of hydraulics.

The periodical returns of apoplexy, is held up as an objection to the doctrine of compression; but I can not see any reason for it; as undoubtedly, periodical plethora, and hemorrhage can take place in the brain, as it does in other parts of the body.

The fact of effusions and extravasations having been found, without previous apoplexy, only proves that these may take place without producing the disease, not that they are never the cause.

It is well known that compression on the brain will produce all the symptoms of this disease; and I think that the whole of the phenomena prove it so clearly

to be produced by compression, that I shall not take particular notice of any system, that refers it to another cause, though such comes from as high authority as Hieronymus Serrus, &c. Compression, as I have before stated, takes place from congestion of the blood vessels, extravasations of blood, or effusion of serum: As the two latter appears most commonly to be the effect of the first and are found coexisting with it, I shall speak principally of that.

There is very great difference of opinion among writers how an accumulation or engorged state of the vessels of the brain takes place. It must necessarily be varied with the exciting cause, and I have accordingly made the following division. 1st An increased determination of blood to the head; 2nd An obstruction to the passage of the venous blood from the head; 3rd And debility of the vital or tonic powers of the blood vessels of the brain. I may be wrong in including the last in this divi-



sion, as it is not established by actual observation.

1st Of increased determination of blood to the brain. If I understand it correctly Abercrombie and others, deny that this ever takes place, they allege that the blood is propelled in every direction by an impulse primarily derived from the heart and that it has no motive power to distribute a greater relative quantity, or send it with greater force to one part than another. This is true, and would be a sufficient reason for a rejection of the doctrine of determination, if blood could only be taken to the head (or any other part of the body) by vessels going from the heart and influenced by its contractions, but it is shown by Bichat, that the capillaries are in a great degree an independent set of vessels, and that the blood contained in them moves uncontrolled by the heart. These vessels existing throughout the body, and being intimately connected by innumerable anastomoses, blood can be determined



by power of their means ~~un~~ affected by the heart is any part of the body, where there is sufficient irritation. I think it is in this way, that blood is determined to the brain when irritation is induced, directly or sympathetically in it. It is probable by this irritation and consequent determination, that apoplexy &c. act in producing apoplexy, heat applied to the head, also acts in this way, and from the close sympathy existing between the brain, stomach, and intestines, it is probable that some of the causes mentioned as acting on the two last named organs, operates by the sympathetic irritation they produce in the brain.

2^d Obstruction to the passage of the venous blood from the head is sometimes a cause of congestion in the brain; ligatures about the neck compressing the jugulars have this effect; also tumors in the neighbourhood of the veins pressing upon them; Polypus of the right cavities of the heart; or some of the veins

and an obstruction to the free transmission of the blood through the lungs, and consequently through the right cavities of the heart, preventing the return from the head. Cullen thought this last a common source of apoplexy; he says obesity acts by the compression produced on the blood vessels of many parts of the body, keeping the lungs in a plethoric state, so that upon the least exertion which sends blood faster to the lungs, (a torrid respiration and an obstruction is the consequence).

3rd Debility of the vital powers, or loss of tone of the vessels of the brain, is another cause of congestion.

This doctrine is advocated by Dr Jas. Johnson. I cannot better explain its principle, than by quoting the following paragraph from his review of Cooke on apoplexy, "We know that the vessels of the brain, and every other part of the body, are endowed with vital and elastic powers, calculated to confine the blood in its proper

channels, without any assistance from the parts
which these vessels traverse. But what is the
consequence when, from any cause, these vital
or tonic powers of the vessels in the brain are de-
minished? why, they immediately swell; and con-
sequently press upon the brain — or burst, and ex-
travasate their contents — or suffer the serous
portion of the blood to exude; in which last
two cases, the pressure is more local, than in
the first." Concussion of the brain from a blow on the skull
probably acts by producing this debility of the
vessels, and also a depending position of the brain.
The above mentioned writer very ingeniously
observes, "on this principle we can explain
why the symptoms of this formidable disease
often vanish suddenly by a restoration of
the balance of the natural and vital power,
in the vessels of the brain, before these vessels
have given way or poured out their serous
contents, or before their turgescence has dis-

stroyed the functions of the encephalon beyond recovery".

Diagnosis. Authors have enumerated symptoms as distinguishing different forms of this disease, as serous and sanguineous, but, post mortem appearances have often proved them incorrect; symptoms indicating the serous form have shown on dissection sanguineous extravasation, and vice versa. Carus, Coma &c., are considered inferior degrees of apoplexy. L'Alay is very nearly allied to apoplexy; one of these diseases frequently terminates in the other. In the last there is a complete abolition of sense and voluntary motion, whilst in the former there is only a partial loss of voluntary motion, and sometimes without any loss of sensibility. A fit of Epilepsy, resembles very much apoplexy, but it may be known by there being greater agitation, with convulsion and spasm of the muscles, particularly those of the

face, much foaming at the mouth, the paroxysm passing off sooner than it does in apoplexy, leaving the body its previous state; by its attacking principally young subjects, and by the absence of stertor in epilepsy.

Intoxication is known from apoplexy, by the smell of the breath, the pouting of the upper lip &c. Syncope and Asphyxia are known by the action of the heart and respiration being principally affected.

Prognosis. Apoplexy occasionally terminates immediately, in health or death, but most commonly, it lasts for some hours, and sometimes days, Dr Brooke "believes that it seldom destroys life in less than one or two hours." His opinion, that many sudden deaths attributed to apoplexy, depend upon some affection of the heart, or rupture of some blood vessel, larger than those of the brain. Recoveries are generally slow, and attended by loss of speech, of eye sight, and of memory; im-

fecility of men, frequently a tendency to anæmia.
The favourable indications are, a red face, a quick
uninterrupted circulation, with a general cool-
ness on perspiration; easy respiration; comestive
epistaxis; the hæmorrhoidal and menstrual dis-
charges; spontaneous ptyalism; free flow of urine
and alvine evacuations. Unfavourable symp-
toms are astertorous respiration, becoming slow
interrupted; foaming at the mouth; pulse weak,
slow and interrupted; the pupil dilated or contract-
ed, the latter is particularly unfavourable; inequal-
ity of animal temperature, pale ness of the face;
the breaking out of cold clammy sweat, convul-
sions &c.

The degree of danger is influenced
by the circumstances of there being congestion in
the vessels of the brain, or the extravasation of blood
&c. It was believed by some that recoveries never
took place after extravasation. This opinion is
proved to be incorrect, but there is a difference of
opinion in what way it is disposed of; Mr Cooper

says that the blood is never absorbed, but that the brain gradually acquires the power of bearing its pressure.

Others say it is removed. According to them the coagulum becomes encysted in the first place, then this cyst secretes a fluid which liquefies the blood and finally the whole is absorbed.

The annexed paragraph is from Cooke on apoplexy; "In those cases, in which the disease comes on gradually, and with symptoms warning us of its approach, I should in the generality of cases suspect the cause to be either blood poured out slowly from a small vessel, or serum gradually effused. In either case, if the effusion goes on, the full apoplexy may be produced; but it is difficult to conceive how serum should be effused so quick, as to produce the sudden disease; and, in fact, as far as I have been able to compare symptoms with appearances on dissection, the sudden apoplexy seems always more or less connected with an effusion of blood.

Treatment. From the violence and speedy termination of this disease, it requires from the practitioner prompt and decisive treatment. Blood letting in some shape is the remedy that is chiefly relied on, and it is for the most part universally and imperiously demanded. Dr Booke says, "he can hardly conceive a case of apoplexy, in which he should be afraid to take away some blood by cupping, by the application of leeches, or opening a vessel in the neighbourhood of the head with the lancet." It requires discrimination in the application and extent of blood letting. The volume of the case, the age of the patient, the habit of body and the state of the pulse, are to be taken in consideration. Called to a case of apoplexy, having the patient placed with the head and shoulders in an elevated position, in a well ventilated apartment, his body divested, in every of anything that can give compression, the physician commences his operations, guided by the cir-

circumstances just mentioned, by taking away blood, either from the temporal artery, the jugular vein, or from the arm. Some preferring one, and some another; but in whatever way, it is generally the object to take it suddenly, and for this purpose occasionally a vein is opened in each arm. In some cases however it is necessary to take blood gradually and in a small quantity, as a large bleeding would extinguish life. Sometimes a small bleeding will do, but generally large and repeated ones are demanded; thereby or forty ounces is mentioned as being generally required. As much as six to ten pounds is related to have been taken with advantage. Local bloodletting is of great use; cupping is preferred to leeching. Remedies denominated revellants are found useful auxiliaries, as the application of blisters to the head, neck, or extremities and sinapisms and other stimulating applications to different parts of the body. Cold applications to

the scalp, are sometimes of great advantage;

Emetics is recommended by some practitioners, but entirely discredited by others, as being a dangerous remedy. Its advocates use it differently. Some recommend it after bloodletting is carried as far as it is safe, to give an emetic, to excite the vis medicatrix naturæ. Others think it more particularly adapted to the acutest form of the disease. It may properly be adapted to both cases, but its chief indication, is in cases where the disease has taken place immediately, after a full meal of irritating and indigestible substances. It is recommended in all cases to precede the emetic by venesection. As Emetics the Spécuaqua, the blue and white vitriols are preferred.

Cathartics are universally prescribed, and are given, as soon as the patient can be made swallow. They are resorted to with a view to their repellent effect, as well as to cleanse the bowels of the acids that may be in them. The domestic ca-

thartics are used, as calomel, combined with stibium, aloes &c. Enemas are used when cathartics cannot be gotten down, or to facilitate their operation.

Stimulants have been used in this disease, and are recommended by Sydenham in some cases, but they are generally thought to be equivocal remedies.

When other means fail and the disease continues it is recommended to produce salivation.

I have in this dissertation endeavoured to give a brief account of apoplexy, incorporating with it as little of the numerous and conflicting opinions of the disease as possible.

